14XZ00117/GEM-0295 Appln Serial No. 09/964,071 Amendt. dated 05/ 1/2007 Reply to Office Communications of 04/14/2003 and 11/18/2003

Amendments to the Description:

Please amend paragraph [0003] with the following amended paragraph:

[0003] An X-ray tube comprises, in a vacuum chamber, a cathode which that emits a beam of electrons to an anode (or target) comprising of a rotating disk coated with a material such as manganese. An electric field is created between the cathode and the anode by applying between those two elements a voltage in on the order of one hundred kilovolts and or more in order to accelerate the electrons emitted by the cathode. The point of impact of the accelerated beam of electrons accelerated on the rotating disk causes the anode to emit emits X-rays.

Please amend paragraph [0004] with the following amended paragraph:

In order to obtain these the high and very high voltages of one hundred kilovolts and or more from an input voltage, it is desirable to have rectifier circuits connected to transformer windings. The transformer windings are subject to very high voltages, so that it is desirable to insulate winding turns from one another with a sufficient thickness of material which should be a good electric insulator in order to prevent electric failure, while having good thermal conductivity to carry off or dissipate heat. For that purpose, one ordinarily uses paper placed between the layers of turns and a dielectric oil which that fills the whole chamber in which the transformer is immersed. However, this technique does not make it possible to effectively carry off or dissipate the heat due to heating of the windings, which that may be caused by an electric current. Furthermore, in some applications it is required that radiological examination be made, notably, in the case of scanners, more and more rapidly, for example, four times faster then previously, in order to reduce the operating cost, which results in dissipating more heat per unit time.

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Please amend paragraph [0005] with the following amended paragraph:

[0005] In the present state of the art, the one solution to that problem is to increase the volume and weight of the transformer.

Please amend paragraph [0006] with the following amended paragraph:

[0006] An embodiment of the The present invention is directed to a high-voltage transformer winding which enables the heat generated by the winding to be carried off or dissipated better without an increase of volume and weight in relation to the windings.

Please amend paragraph [0009] with the following amended paragraph:

[0009] Other characteristics and advantages of this the present invention will appear on reading the following description of a particular embodiment, the description being made in relation to the attached drawings in which:

Please amend paragraph [0012] with the following amended paragraph:

[0012] Figure 3 is a schematic view showing the assembly of three juxtaposed disks with an electric conductor;

Please amend paragraph [0013] with the following amended paragraph:

[0013] Figure 4 is a schematic view of the a mounting of three disks on a mandrel [,]; and

Please amend paragraph [0014] with the following amended paragraph:

[0014] Figure 5 is a diagram illustrating the <u>a</u> method for placing the electric conductor in the spirals of the disks of the winding.

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Please amend paragraph [0015] with the following amended paragraph:

[0015] In an embodiment of the invention the electric insulating material has a high thermal conductivity in order to carry off or dissipate the heat originating from the electric energy dissipated in the electrical conductors. electric conductor, the electric insulating material has a high thermal conductivity.

Please amend paragraph [0016] with the following amended paragraph:

[0016] In an An embodiment of the invention [, the] comprises a plurality of juxtaposed plates, each plate bearing a spiral-wound electric conductor, and the spirals of the electric conductor present an identical gyration, but are wound from outside in on one plate and from inside out on the adjacent plate. The spiral winding of the electric conductor is preferably obtained by a spiral-shaped groove or channel which that is traced on at least one side of the plate in order to accommodate the electric conductor. To enable the electric conductor to pass from one plate to the adjacent plate, a first plate presents a notch at the outer point of the spiral, while the adjacent plate (or second plate) presents a notch at the inner point of the spiral, so that the electric conductor passes from the first plate to the adjacent (or second plate) through the outer notch of the first plate and from that adjacent plate to the next plate (or third plate) through the inner notch of the second plate, the third plate presenting an outer notch like the first plate.

Please amend paragraph [0018] with the following amended paragraph:

[0018] The shape of the bottom of the groove is preferably adapted to that of the electric conductor section cross-section, but it can be semicircular or flat. The periphery of the plate can have any shape, but pointed shapes should be avoided.

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Please amend paragraph [0021] with the following amended paragraph:

[0021] The That electric insulator of high thermal conductivity placed between

the plate can be liquid or solid at temperature of use.

Please amend paragraph [0023] with the following amended paragraph:

[0023] A winding 10a, 10b comprises (Figures 1 and 2) a circular disk or plate

12a or 12b of insulating material, one side 14a or 14b of which presents a spiral groove or

channel 16a or 16b, the other side 26a or 26b being flat. An electric conductor 18a or 18a

is accommodated in the groove 16a or 16b and emerges from the groove at a first

peripheral end 20a or 20b and at a second central end 22a or 22b.

Please amend paragraph [0030] with the following amended paragraph:

[0030] The insulating material of the disk can be of all known types creating good

electric insulation and presenting high thermal conductivity. It is preferably of a material

described in the published French patent application published under No. 2,784,261 filed

by the applicant on October 5, 1998.

Please amend paragraph [0041] with the following amended paragraph:

[0041] An embodiment of the The invention also concerns a method of winding

for making a coil by means of disks. The method comprises (Figure 5) calculating the

number N of disks which are desirable for making the coil, for example, N = 6. Among

those six disks, three, D1, D3 and D5, will have a spiral along disk 12b with an inner

notch 66b and three, D2, D4, D6, will have a spiral along disk 12a with an outer notch

62a.

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